



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,167	12/11/2001	Jonathan A. Usuka	9080-016-999	3878
20583	7590	07/20/2005	EXAMINER	
JONES DAY 222 EAST 41ST ST NEW YORK, NY 10017			LY, CHEYNE D	
			ART UNIT	PAPER NUMBER
			1631	

DATE MAILED: 07/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/015,167

Applicant(s)

USUKA ET AL.

Examiner

Cheyne D. Ly

Art Unit

1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 14, 15, 17, 20-22, 39, 40, 42, 45-47 and 58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14, 15, 17, 20-22, 39, 40, 42, 45-47 and 58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No: \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Applicants' arguments filed May 03, 2005 have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

2. Claims 14, 15, 17, 20-22, 39, 40, 42, 45-47, and 58 are examined on the merits.

### **OBJECTIONS**

3. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code (Pages 12, 13, and 23). Applicant(s) is/are required to delete the embedded hyperlink and/or other form of browser-executable code, or inactivate the hyperlink. See MPEP § 608.01.

### **CLAIM REJECTIONS - 35 U.S.C. § 112, SECOND PARAGRAPH**

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 14, 15, 17, 20-22, 39, 40, 42, 45-47, and 58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. The instant rejection has been necessitated by claim amendments.

7. Specific to claim 14, lines 17-18, the antecedent basis for the phrase "the correlation value associated with the respective genotypic data structures" is not clear because lines 8-10

determines “a correlation value for said genotypic data structure based on a comparison...” which has been reasonably construed as an association with the genotypic data structure. Lines 11-14, establishes “an associated correlation value” which has been reasonably construed as being different from the “correlation value” from lines 8-10. Therefore, claim 1 is not clear as to whether the “the correlation value” from line 17 is directed to the step recited in lines 8-10 or lines 11-14. The same issue is present in claims 17, 20, 22, 39, 42, 45-47, and 58. Claims 15, 21 and 40 are rejected for being dependent from claim 14, 20, or 39.

8. Specific to claim 14, line 17, the antecedent basis for the phrase “the property” is not clear. It is noted that lines 1-15 recites a plurality of distinct limitations wherein each of the respective limitation could reasonably be construed as a property. For example, limitation of “property” could reasonably be construed as being directed to the phenotype, different strains, loci, or the data structure. Therefore, the antecedent basis for the phrase “the property” is not clear. Further, lines 12-13 recites the establishing of “an associated correlation value,” however, lines 12-13 do not recites the association value is directed to any specific property. The same issue is present in claims 17, 20, 22, 39, 42, 45-47, and 58. Claims 15, 21 and 40 are rejected for being dependent from claim 14, 20, or 39.

#### **CLAIM REJECTIONS - 35 U.S.C. § 112, FIRST PARAGRAPH**

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

Art Unit: 1631

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 14, 15, 17, 20-22, 39, 40, 42, 45-47, and 58 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. NEW MATTER REJECTION.

11. The instant rejection has been necessitated by claim amendments.

12. In claim 1, the limitations recited lines 15-20 have not been found in the instant specification. For example, lines 16-17 recite the limitation of “the one or more genotypic data structures has the property that property that the correlation value associated with the respective genotypic data structure” which has not been found in the instant specification. It is noted the instant specification discussed the association of the determined correlation value with a genotype, but not to a generic property (column 3, paragraphs [0025-0026]). Further, lines 19-20 recite the limitation of “plurality of genotype data structures that are not in said one or more genotypic data structure” has not been found in the instant specification. It is noted that the instant specification discusses the identifying step as directed to the “a dissimilarity in the first set of genotypic data structures and the second set of genotypic structures (column 3, paragraphs [0025-0026]) which is different from the proposed

Art Unit: 1631

limitation of “plurality of genotype data structures that are not in said one or more genotypic data structure.” The same issue is present in claims 17, 20, 22, 39, 42, 45-47, and 58.

### **CLAIM REJECTIONS - 35 USC § 101**

13. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

14. Claims 14, 15, 17, 20-22, 39, 40, 42, 45-47, and 58 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory algorithm type subject matter.

15. This rejection is maintained with respect to claims 14, 15, 17, 20-22, 39, 40, 42, 45-47, and 58, as recited in the previous office action mailed October 19, 2004.

### **RESPONSE TO ARGUMENTS**

16. On page 19, Applicant disagrees with point 13 of the October 19, 2004 Office Action because many of the claims are method claims. Applicant’s disagreement has been noted. However, said item 13 is an acknowledgement that the claimed invention is also directed to a computer program and computer product as recited by claims 39, 40, 42, 45- 47, and 58. Further, said item 13 expands on the fact that, even though said claims are directed to a computer program and computer product, the algorithmic processes occurring within a computer program or computer product do not cause any physical alteration outside of the computer program or computer product. Therefore, “such activity is not determinative of whether the process is statutory because such transformation alone does not distinguish a statutory computer process from a nonstatutory computer process.”

Art Unit: 1631

17. Further, item 12 of the October 19, 2004 Office Action has acknowledged that claims 14, 15, 17, 20-22 are directed to a method. A reasonable interpretation is that said claims are directed to a method comprising algorithmic steps for manipulating genotypic and phenotypic data without any physical alteration step, which is considered to be non-statutory subject matter.

18. Applicant further argues “the Examiner’s characterization of the invention as one that manipulates genotypic and phenotypic data is somewhat abstract. Rather, the invention is better characterized as one that is directed to the practical application of association a phenotype with one or more chromosomal regions in the genome of a species.” Applicant’s argument is not persuasive because the “association a phenotype with one or more chromosomal regions in the genome of a species” represents the manipulation of genotypic and phenotypic data as asserted in the previous Office Action. Further, a method comprising algorithmic steps for the “association a phenotype with one or more chromosomal regions in the genome of a species” without any physical alteration step is considered to be non-statutory subject matter.

19. Applicant asserts that Applicant does not “understand why the Examiner is applying this supposed computer-related process claim to claims 14, 15, 17, and 20-22, which are method claims. Item 12 of the October 19, 2004 Office Action has acknowledged that claims 14, 15, 17, 20-22 are directed to a method. Further, when the claims are read a whole, a reasonable interpretation is that the claimed invention is directed to a computer related method. Therefore, the basis for the instant rejection is supported by 35 U.S.C. 101.

20. Further, Applicant argues that the claimed invention is directed to a practical application within the technical arts. Applicant's argument is not persuasive because the instant claims do not recite any limitations which supports the claimed method, which has been reasonably construed as being performed within a computing environment, achieves a practical application. For example, a claim is limited to a practical application when the method, as claimed, produces a concrete and tangible; i.e., the method recites a step or act of producing something that is concrete and tangible, which is not the case in for the instant claimed invention.

#### **BASIS FOR REJECTION**

21. Claims 14, 15, 17, 20-22, 39, 40, 42, 45-47, and 58 are rejected because said claims are directed to a method comprising algorithmic steps for manipulating genotypic and phenotypic data without any physical alteration step, which is considered to be non-statutory subject matter. "For example, a computer process that simply calculates a mathematical algorithm that models noise is nonstatutory. However, a claimed process for digitally filtering noise employing the mathematical algorithm is statutory." (MPEP § 2106 (IV)(B)(2) (b), part ii). Similar to the nonstatutory example above, the instant invention comprises algorithmic steps for manipulating genotypic and phenotypic data without any physical alteration resulted from said analysis or modeling steps.

22. It is acknowledged that the instant invention, as recited by claims 39, 40, 42, 45-47, and 58, is directed a computer program and product comprising processes for manipulating genotypic and phenotypic data. The processes have been reasonably construed as



Art Unit: 1631

algorithmic processes occurring within a computer system wherein said processes does not cause any physical alteration outside of said computer system. Therefore, "such activity is not determinative of whether the process is statutory because such transformation alone does not distinguish a statutory computer process from a nonstatutory computer process" (MPEP § 2106 (IV)(B)(2) (b), part ii).

### CONCLUSION

23. Rejections not reiterated from previous office actions are hereby withdrawn as necessitated by claim amendments.

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

25. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

26. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547. The USPTO's official fax number is (571) 273-8300.

Art Unit: 1631

27. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

28. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel, Ph.D., can be reached on (571) 272-0718.

C. Dune Ly / *CDL*

7/14/05

*Ardin H. Marschel 7/15/05*  
**ARDIN H. MARSCHEL**  
**SUPERVISORY PATENT EXAMINER**